

CLAIMS

What is claimed is:

1. A deodorant fiber structure in which deodorant fine particles are adhered to a fiber structure through a binder resin, characterized by
  - 5           the above-described binder resin is adhered in an approximately uniform coating film state to single fibers constituting said fiber structure;
  - each single fiber is substantially maintained in an independent state without being adhered;
  - and
- 10           the ratio d/t of the diameter d ( $\mu$  m) of the above-described deodorant fine particle to the coating film thickness t ( $\mu$  m) of the above-described binder resin is in the range of 1.5 to 10.
2. The deodorant fiber structure according to Claim 1, wherein the deodorant fine particles comprise a metal oxide.
- 15           3. The deodorant fiber structure according to Claim 1, wherein the deodorant fine particles have a photodecomposition-catalyzing ability.
4. The deodorant fiber structure according to Claim 1, wherein the diameters of the deodorant fine particles are in the range of 0.1 to 2  $\mu$  m.
- 20           5. The deodorant fiber structure according to Claim 1, wherein the binder resin is a hydrophobic binder resin.
6. The deodorant fiber structure according to Claim 1, wherein the binder resin is a hydrophilic binder resin.
- 25           7. The deodorant fiber structure according to Claim 1, wherein the amount of the adhered binder resin containing the deodorant fine particles is 0.2 to 30 percent by weight on the basis of the weight of the fiber structure.
8. The deodorant fiber structure according to Claim 1, wherein the form of the deodorant fiber structure is a fabric-like form.
9. The deodorant fiber structure according to Claim 1, wherein the fibers constituting the deodorant fiber structure comprise a polyester resin.
- 30           10. The deodorant fiber structure according to Claim 1, wherein the single fiber diameter of the fibers constituting the deodorant fiber structure is in the range of 5 to 40  $\mu$  m.
11. The deodorant fiber structure according to Claim 1, wherein a deodorization degree is not less than 70%, after the laundering treatment

defined by JIS L01217 is carried out 30 times.

12. A method for producing a deodorant fiber structure, characterized by adhering an aqueous dispersion containing deodorant fine particles and a binder resin to a fiber structure, thermally treating said fiber structure in saturated steam of 98 to 100°C for 1 to 20 minutes, further drying said fiber structure at a temperature of 80 to 130°C for 1 to 20 minutes to adhere the above-described binder resin to the single fibers constituting said fiber structure in an approximately uniform coating film state, and control the ratio d/t of the diameter d ( $\mu$  m) of the above-described deodorant fine particle to the coating film thickness t ( $\mu$  m) of the above-described binder resin to a range of 1.5 to 10.